US Department of Health and Human Services
Centers for Disease Control
National Institute for Occupational Safety and Health
Advisory Board on Radiation and Worker Health
Los Alamos National Laboratory (LANL) Work Group
Thursday, July 25, 2019

The Work Group convened via teleconference at 10:30 a.m. Eastern Time, Josie Beach, Chair, presiding.

Members Present:

Josie Beach, Chair
Bradley Clawson, Member
James E. Lockey, Member
Genevieve Roessler, Member

Also Present:

Ted Katz, Designated Federal Official
Grady Calhoun, ORAU
Andrew Evaskovich, Petitioner
Joe Fitzgerald, SC&A
Michael Rafky, HHS
Lavon Rutherford, ORAU
Dan Stempfley, ORAU
John Stiver, SC&A
Dr. Tim Taulbee, ORAU

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Proceedings

(10:30 a.m.)

Welcome and Roll Call/Introductions

Mr. Katz: So, welcome everyone. This is the Advisory Board on Radiation and Worker Health. It's a Los Alamos National Laboratory Work Group.

And we have a -- I think it will be a relatively brief meeting today. Largely to understand paths forward for work that needs to be done. But we'll see.

The substantial sort of work that's being addressed in this discussion, some of it is, the background for that is two papers back and forth that are posted on the NIOSH website under this program.

If you go to scheduled meetings, today's date, you'll find that there, as well as the agenda for the meeting. And also a brief presentation from LaVon Rutherford, DCAS, who will be giving it. So, you can follow along with his presentation.

So, since -- I'm going to do roll call and conflict of interest since this specific site that we're addressing today.

(Roll call.)

Mr. Katz: Okay then. And let me just note the agenda doesn't have a Petitioner's comment section.

This is largely not, but we'll see how this call goes. But it's largely again, sort of just to scope the future activities.

But certainly at the end of this meeting, if you have questions or what have you, related to the agenda or other, you'll get -- you'll get a chance to ask them.

So, I think that takes care of everything I have.

And let me just remind everyone to mute your phones, except for when you're speaking to the group.

If you don't have a mute button, press *6 to mute your phone. And *6 again to take yourself off mute.

And please, nobody put this call on hold at any point. That's a problem. Just hang up and dial back in if you need to.

And then it's to you, Josie. It's your meeting.

Introduction by Chair Beach

Chair Beach: Okay. Thanks Ted. And thanks everyone for joining us. If you recall, the last meeting was November of 2018.

We had a couple of SEC issues to discuss. And LaVon, I really appreciate you putting together that slide presentation.

That was helpful. A great spot to get us started talking about this. And I know that you have quite a few plans that you guys have already started on exotics.

So, I'm looking forward to hearing what your plan is to get through that. And, of course, the sampling plan for the -- for the 1999 LANL report.

So anyway, I'm going to let you go ahead and get started, LANL if -- or not LANL, LaVon, excuse me.

Mr. Rutherford: Okay. Can everybody hear --

Chair Beach: Whatever I said, they're related, yeah. So, yeah, if you jump in. And then I think we can hold questions until the end.

And then the Work Group discussion from after your report. If that's okay with everyone.

Mr. Rutherford: Alright. Can everyone hear me?

Mr. Katz: Yeah. You sound good.

Mr. Rutherford: Okay. Alright. Well, I put the LANL presentation up on Skype. Hopefully it's there. Can everybody see it?

If not --

Chair Beach: I cannot. But, --

Mr. Rutherford: Hold on.

Chair Beach: I think --

Member Lockey: I can see it, Bomber.

Mr. Rutherford: You can see it? Okay. Alright.

Chair Beach: That's okay. I have it in front of me, so don't -- that's fine.

Member Roessler: Yeah, I have it. I see it.

Working Group Discussion – Open SEC Issues and LANL 1999 Radiation Protection/Monitoring Self-Assessment

Mr. Rutherford: Okay. Alright. Well thanks, Josie. And I'll get started.

I'm LaVon Rutherford. I'm the Special Exposure Cohort Health Physics Team Leader for NIOSH. And I'm going to give a little status update on LANL.

I'll very briefly summarize the NIOSH Response, the NC ID 484, and SC&A's review of that report. I'll also go over the path forward for addressing the potential effect on the co-worker models for workers not leaving bioassay samples as required.

And finally, I'll go over a path forward and schedule for addressing dose reconstruction for mixed fission and activation products and other exotics.

So, NIOSH issued our response to the NTS Report NC ID 484 in March of this year. In that report we

went over the findings and observations of the 1999 LANL assessment that led to the Noncompliance Tracking System report.

We also went over the specific deficiencies identified in NC ID 484, and the corrective actions LANL took to address the deficiency.

Then we responded to each of those deficiencies indicating how NIOSH felt the deficiency may impact dose reconstruction capability. The deficiencies of greatest concern to NIOSH with respect to dose reconstruction are Deficiencies 1, 2, and 3.

Deficiency 1 is a concern that some workers and supervisors were not accurately filing out the HP checklist. And that's important, because the HP checklist identifies bioassay programs the workers will be assigned to for the work activities.

Deficiency 2 has identified as some radiological workers will not be participating in the bioassay program as required by specific RWPs.

They reviewed a few RWPs and in one of the RWPs, two out of the five workers assigned were not leaving the appropriate bioassay. It was a very short sample set; I believe four RWPs, but I'm not sure.

Deficiency 3, which was a concern that Johnson Controls of Northern New Mexico may not have been enrolling workers in the appropriate bioassay program.

So, LANL's corrective actions for all three were to implement a web-based Dosimetry Participation Verification Program that went into effect on October 1, 2000.

The biggest question is, what effect does this -- do these findings and potential gaps have on our co-worker models for the period 1996 through October 2000?

Our response to the deficiency was basically the same. We indicted that this assessment focused mostly on the primary radionuclides and that we have extensive co-worker data available through the program primary radionuclides. We provided tables in our report that show that the number of data available between 1996 and 2005.

We picked that -- we picked 2005 for a couple of reasons. One, it's the end of the petition period. And the other is just to see if we had large changes in the amount of data available between there.

So, in April of this year, SC&A was tasked with reviewing our report. They issued their report in June.

Their report concluded that they -- SC&A disagreed with NIOSH's assessment that the amount of routine bioassay data available obviates the need to confirm its completeness in the face of NC ID 484 findings of potential data gaps for bioassay enrollments and RWP job-specific bioassay participation.

Their recommendation was to -- NIOSH follow up with LANL to ascertain whether the bioassay incompleteness identified in this limited sampling in '99 reflects a broader incompleteness in LANL bioassay database from 1996 through 2000.

So, I briefly discussed things with Josie and Joe -- Joe Fitzgerald at SC&A, at the Board meeting in April.

And we decided to interview radiological control staff to ascertain whether LANL did additional amounts after the assessment to determine whether there was a broader issue of personnel not leaving the appropriate bioassay.

So, on May of this year, Joe Fitzgerald and I interviewed three radiologic control staff members in a group setting.

All three were present during the assessment. All three said they were not very involved in the assessment, but were aware of the assessment.

And we asked them whether they did additional analysis to determine the magnitude of individuals not leaving the required bioassay. They indicated there was nothing done at the time to determine the magnitude of individuals not leaving the required bioassay.

They pretty much said they recognized issues with the HP checklist and decided to take corrective actions that would fix them going forward.

Just as a note, we did get the -- we sent out the interview notes to the interviewees a while back. And just got them back with their recommended changes. And we're incorporating those. And we'll send it out for final ADC review -–

(Telephonic interference.)

Mr. Rutherford: -- SC&A.

So, what's our proposed path forward? As I mentioned earlier, SC&A is concerned the missing bioassay samples from individuals not leaving bioassays samples as required for the job-specific RWPs and enrollment issues, and may have created data gaps that could affect the co-worker model.

A similar situation occurred during the SRS evaluation. In order to resolve that issue, NIOSH agreed to develop a sampling plan, and sample RWPs to determine compliance with bioassay requirements. And that's the report that we issued.

So, the first thing we had to look at is, you know, we wanted to determine is it even feasible to conduct the sampling at LANL from 1996 through 2001.

Are the RWPs available? You know, can we get them? Can we get the sign-in sheets? Can we

determine bioassay requirements?

And at this time it appears we can say yes to those. And there's always the possibility that when we get deeper into this, in developing the sampling plans, that we may come short on some.

One good news -- good thing though is that we do know that the HP checklists are available electronically.

So, we are therefore proposing to move forward with the sampling plan effort consistent with how it was conducted at SRS. I've identified some difficulties that could affect the schedule as we go along.

As I mentioned -- I may not have mentioned, LANL does not have an electronic database like SRS, except for they do have the HP checklist as I mentioned, electronically.

So it's a lot of, you know, it's going through paperwork and boxes and looking through other things that way.

LANL does not have a great track record for releasing documents quickly. And you know, if any funding issues come up.

We did meet with DOE. I had a phone call with Greg Lewis and Gina Griego. And we talked about both the funding and releasing of documents. And they both committed to work to try to, you know, implement lessons learned from SRS, and to help this process along.

And then what the plan -- the basic major steps that the plan includes, and obviously this is not all inclusive, is: we will review collected indexes of RWPs; we'll develop a sampling plan and then we will submit that to the Work Group for approval; we'll implement that plan after the Work Group's approval; and develop a sampling plan report; and then we will submit a finalized report to the Work

Group. And right now we've got this laid out that we believe we can have this done by November of next year.

Some of the things that I put down here, you know, we'll set up this -- the schedule and laid this thing out with a 30-day review by LANL. That could affect the schedule if those reviews take longer.

So, before I get into the mixed fission and activation products, do we want to talk about this proposed path forward?

Are there any questions, comments on this?

Question and Answer

Chair Beach: Yeah LaVon, I think that's probably a great idea. So, I see the plan laid out here.

And I was a little confused at first with submitting the final plan November of next year. So we're going to actually see things a couple of different times before that November.

And you're --

Mr. Rutherford: Correct.

Chair Beach: So the tough part here is that's a pretty -- that's a long way out, to put it bluntly.

Mr. Rutherford: Right.

Chair Beach: And it could lead into 2021, as far as we know. I know you've kind of laid that ground work depending on how it goes with LANL.

But we could be -- this is an optimistic schedule, it sounds like.

Mr. Rutherford: Well, you know, I think there is -- we have put in a little bit of extra room.

But, you know, it may be an optimistic schedule. I'm not going to lie. You know, there's no doubt

that the ADC reviews could really affect this.

And we know that the effort that Savannah River Site took about a year and a half, I believe, Tim Taulbee can correct me. And --

Dr. Taulbee: Yeah. That's about right, Bomber.

Mr. Rutherford: So, you know, this is about the same time period. But we are, you know, using a lot of lessons learned from SRS.

And then this, you know, what would have helped us on reducing the schedule there, the availability of the electronic database, or the lack thereof, hurts us, so.

And you know, the fact of the matter is, is that there's travel out to Los Alamos and so on. And all of that is, you know, does affect the schedule somewhat.

But this is the plan we've laid out. And we're going to -- we can work through that plan.

Chair Beach: So, one more quick question and then I'll pass it on.

So, the third bullet on page eight is implementing the plan, conduct a data capture for RWPs and bioassay. So you need to go back to LANL to get those? Or have you collected everything and you just --

Mr. Rutherford: Well, actually what we've done, is we have identified all of the RWPs. And actually, the bioassay database is pretty much available to us.

So that's not a difficult issue at all. All the RWPs have been identified.

The process of going through the RWPs and picking out the required RWPs for the sampling plan effort, you know, that's got to happen. And then we will, once we've identified those, we can pull them.

Our -- what typically happens is, we scan these items. We may scan all of the RWPs. But in the review of that indexes -- or in that review, we may, you know, then we'll start pulling the various ones that we need.

Does that help answer that question?

Chair Beach: Yes. Thanks. Go ahead Gen?

Member Roessler: Okay. Yeah, Josie, you mentioned the time frame. And when I first saw this, I thought that's a long ways out.

But then I thought back on the -- you know, we've been going on this site for ten years. And it seems like another year or so is something that we need to -- we need to proceed.

Plus, it seems to me that we have a decision point in a few months after they get through with the first two bullets here.

There's another point at which we, I think, discuss the timing of the future work.

Mr. Rutherford: I think that's an excellent point. You know, there is that, you know, when we submit the sampling plan to the Work Group, and right now that's scheduled in late September, you know, that is a good decision point.

Does this sampling -- will this sampling plan answer the questions that the Work Group needs answered?

So, I agree with Gen on that.

Chair Beach: Yeah. I think that's a really good point, too.

Member Roessler: And I do have one other question that's on this section. Not so much on the timing.

But, on the slide, on your interviews, and I don't know what number it is, you have a paper coming

out on that. I'm wondering -- that summarizes the interviews that LaVon, you and Joe, did with the radiation controls staff members. When do you expect that to be out?

Mr. Rutherford: I would expect that to be out in the next couple of weeks, Gen. And basically we finalized them and then do the ADC review.

So, the time that the ADC review, you know, takes is about the time. So I would expect in the next couple of weeks that that report will be available.

Yeah, and we talked a couple of other things in there, during those interviews as well. So that would be good information for the work group.

Member Roessler: Would you let us know when it's out?

Mr. Rutherford: I definitely will. And I will put it in the Board's folder and make sure that everybody knows where it is.

Member Roessler: Okay. Thanks.

Chair Beach: Perfect thanks. Jim or Brad, anything?

Member Clawson: Yeah. This is Brad. You know, I understand where you guys are all at on this.

But also too, this has been ten years. And now all of a sudden we're looking for these radionuclides in this time period.

You know, at some point, and just like what we got into with Savannah River, this is going on a very long time. I understand there's no requirements for that. But we need to get this done.

Member Lockey: Josie?

Chair Beach: Oh, yeah. Go ahead.

Member Lockey: LaVon, I had one question.

At SC&A you did the review, they were -- it had a question about Johnson Controls staff not enrolling everybody who should have been enrolled.

How do you address that?

Mr. Rutherford: Well, we are going -- we are looking into that. And the sampling plan will -- we will definitely address that in the sampling plan.

We are going to look at the RWPs available for Johnson Controls, and the enrollment in those. As well as pulling the HP checklist, which the HP checklists are used for all individuals. Those in -- the HP checklists identify bioassay requirements as I mentioned, for the work activity.

So, we'll be pulling those and looking at the Johnson Controls personnel in that as well.

Member Lockey: Do you think that will be able to answer that question then?

Mr. Rutherford: I do -- I do believe so. I think it will point out -- if we can identify, you know, and then we haven't completely laid this portion out, but if we can identify number of Johnson Controls personnel and then look at the RWPs and the HP checklists, I think we can get a good feel for that.

Member Lockey: Okay. Thank you.

Chair Beach: Hey and LaVon, I just want to comment to what Brad said about the timeliness. I know there's a provision in the SEC regulations that addresses timeliness.

So, that could -- that is a concern Brad, that is something that is looked at in the Act, as far as how much time things take.

I don't think we're quite there yet, but.

Mr. Rutherford: Well, we have definitely -- you know, I understand that. And I definitely

understand how long this has gone on.

And I definitely can say I will work very hard to keep things on schedule.

Chair Beach: Okay. Anything else? Any other questions? SC&A, do you want to go ahead and -- do you have anything Joe, to add?

Mr. Fitzgerald: No. I think LaVon did touch on the fact that, you know, we have the Savannah River experience.

And it sounds like, and you can, you know, reconfirm LaVon, that basically it's -- the Savannah River sampling approach may be tweaked with lessons learned from that experience.

Understanding that, you know, the LANL database is not, you know, it's not online. So that's just going to take longer.

But do you envision the approach being pretty much the same with that tweak? And as well as accommodating the question that Dr. Lockey raised, which is obviously another, you know, wrinkle that's specific to Los Alamos.

Mr. Rutherford: Yes. I -- that's correct. It will be very similar to Savannah River.

We may actually have to do a couple of different things to answer all the questions, just because of the, you know, the differences in how bioassay requirements are identified, you know, and the difference in how RWPs are handled. So there will be, you know, some different, or additions to what was done at Savannah River. And I think that will be laid out in the sampling plan for the Work Group's approval.

Mr. Fitzgerald: Yeah, just going back to what was mentioned on Johnson Controls. I think maybe the major distinction with Los Alamos versus Savannah River, is Savannah River, the time frame was about

the same, but the issue was more of a, you know, sort of compliance question. In other words, the RWPs required the job specific bioassays, but the workers did not provide them. And the percentage was pretty high.

With Los Alamos you do have that issue, but more so you would have questions where workers were either perhaps not enrolled, those CTWs may not have been enrolled, the Johnson Controls issue. Or, because the checklists were flawed, they may not have even been designated for a job-specific bioassay in the first place. So, you know, sampling existing RWPs may not get you to some of those questions.

And just to reemphasize that certainly a sampling plan needs to, sort of, acknowledge that difference and probably augment what was done at Savannah River so that the subcontractors or what have you that should have been picked up and monitored, and were not, either from enrollment issues, or just, you know, maybe faulty checklists, somehow that's assessed as well.

Mr. Rutherford: Yeah. I agree to that. I agree that -- you know, I just want to remind everyone too that so if -- this is no different. If you have a few workers missing, you know, from a -- on bioassay, we still have other workers that have bioassay.

So, it's -- I mean, all of that will be laid out in the sampling plan. And we will definitely make sure that we address Johnson Controls specifically.

Mr. Fitzgerald: Yeah. That's all I have. I just wanted to contrast the two sites from that standpoint.

Mr. Rutherford: Okay.

Chair Beach: Okay. Thanks. Any other questions for LaVon?

(No response.)

Chair Beach: Hearing none, I think you can move on LaVon.

Path Forward to Address MFAP/Exotics

Mr. Rutherford: Alright. Let's get into the discussion on mixed fission and activation products and exotics.

After the Work Group meeting last November, we had a lot of discussion internally on a path forward for addressing mixed fission and activation products and exotics.

What we decided was if we knew the radionuclides of concern, then we can calculate the air concentration that would potentially give an individual 100 millirems CEDE.

Then if we knew the areas where there was a potential for exposure to the radionuclides, we could collect air samples from those areas and compare the actual air concentration to the required concentration to get the 100 millirem CEDE.

If the actual air concentrations are lower, then we know the 100 millirem CEDE value is bounding. If it's higher, then we'd have to adjust with our intakes accordingly.

So, our schedule and status for doing this. First thing we wanted to do was to actually identify our source terms in the different areas.

So we did a data capture on the material control and source term. That is complete. We have that information.

We also have done data capture on surface contamination and airborne radioactivity surveys.

We have actually captured the data, however that data is in ADC review now. So, as soon as that data becomes available to us, we'll upload and review that data. And then from that, we'll also -- we've

also been working on the side, we've identified the potential radionuclides of concern. Now we've got to determine the air concentration required to get the 100 millirems. And we've actually worked that model and it's in internal review.

So, our -- really our end date of this is November of this year. We believe we will have that comparison.

We will have the data in house. And we will have completed that comparison and have it sent to the Work Group.

And that's it. Any questions?

Question and Answer

Chair Beach: Well, I guess exactly how are you doing the review of the exotics?

Mr. Rutherford: Well, as we --

Chair Beach: Is there -- okay, so I've got this laid out. Is there anything that we can look at that -- because you've mentioned here that you've got -- I'm trying to go back to find my page here. Sorry.

Well, let me gather my thoughts. Anybody else have questions?

Mr. Fitzgerald: Yes. If Work Group members do not, I have a couple of questions, LaVon.

Mr. Rutherford: Yes.

Mr. Fitzgerald: This is Joe Fitzgerald. Time frame, what time frame is the exotics review covering?

Mr. Rutherford: The '96 through 2001 period.

Mr. Fitzgerald: Okay. And on the air sampling data, clearly, you know, I think one of the suppositions we've been dealing with is that Los Alamos concluded that there weren't any workers that would have achieved 100 millirems CEDE from the exotics or what have you, after '95. And that's

the premise for not monitoring them. However, -- that's personnel monitoring.

But from this, you're saying that the air sampling data appears to be complete as far as, you know, the analysis of these exotics and mixed fission and activation products.

I mean, that part, I guess, I'm surprised. But it seems to me -- you seem to have the data to do the comparison for the exotics and the MFAPs.

Mr. Rutherford: Well, what I said was, I didn't say for sure that it appeared to be complete. What I said was, we've captured the data from the areas of concern.

And until we start, until we get that data and can review that data, we can't really make that decision.

Mr. Fitzgerald: Okay. So, you're trying -- you're right now in the process of capturing it.

But there's no indication yet of whether that -- what that data's going to tell you.

Mr. Rutherford: Exactly.

Mr. Fitzgerald: Okay. Thank you.

Chair Beach: Okay. And that's what I have underlined, I couldn't find it, was the radionuclides of concern.

I know we've discussed them. So, that was -- that was my question there.

Mr. Rutherford: Okay.

Chair Beach: Is what they were. But, I have that. So, I'm fine there. Brad, Gen, or Jim, any questions?

Member Clawson: This is Brad --

Member Roessler: I have no questions.

(Simultaneous speaking.)

Member Roessler: This is Gen. I don't have a question. But it looks like that we're looking at another Work Group meeting probably after November.

And that will include -- or during November. That will include both the first part, the NC ID 484 and the exotics and all.

Chair Beach: Yeah. That sounds right to me also.

And then Brad, I heard you say your name, but I didn't know if you were asking a question or just said you didn't have any.

Member Clawson: What I was wondering, Bomber, now all these exotics, what are you using to be able to base these on that they were there? What are we using -- I'm not understanding. Maybe I misunderstood you.

How are you going to be able to prove that they were there or not there?

Mr. Rutherford: Well Brad, what we did was we took and did a source term, we did a data request from Los Alamos to help us identify the source terms in the various areas over that time period.

That was one of the things we used. Another thing was, we used the actual whole body count that we had.

We identified all of these radionuclides that had been whole body counted for and they had been looked for in the past.

So, we looked for those. And we looked to see if possibly those were a concern in a given area.

You know, just a few different things of information that we've done. Also, we -- you know, part of our interview with radiological control staff was I asked

them the question, areas they felt that specific items were of concern.

And they gave me an answer on that. So we're looking at those areas as well.

Member Clawson: Okay. I was just wondering what we were using. Because we got into this before, a discussion of what was there and what wasn't and a lot of conflict started to come out of that. But, okay. I just wanted to know kind of how your path forward was going. Thank you.

Chair Beach: Okay. Anything else? Jim?

Member Roessler: Nothing here.

Chair Beach: Oh, I meant Jim. Sorry, Gen. Yes.

Member Roessler: That's okay.

(No response.)

Chair Beach: Okay. And then I guess I --

(Simultaneous speaking.)

Member Lockey: Yes, I have nothing.

Chair Beach: Okay. And then for me, LaVon, I know you're really good about doing this, but can you keep giving us status reports as you do go along in meeting these time lines and deadlines?

If something comes up that's going to change the time line that you've kind of put forth here, is there -- can you just send out an email to Ted to send to the Work Group just so we can all kind of stay up on what's happening?

Mr. Rutherford: Yes. I can do that. No problem.

Chair Beach: And understand, we'll be meeting most likely in the November time frame, before the December meeting.

So, that will be a -- that will be a good time for that. Anything else for the good of the Work Group?

Mr. Rutherford: Nothing from me.

Member Roessler: Nothing from me.

Mr. Katz: Well then, this is Ted. Andrew, do you have any questions related to all of this? Or otherwise?

Mr. Evaskovich: Oh, I just forwarded a document to Josie. I sent it to Josh Kinman, but I didn't get a response.

Mr. Katz: Yeah. No, no, no. Andrew, I have that. And I circulated it to all the members and staff.

Mr. Evaskovich: Okay. I just wanted to make sure of that.

Mr. Katz: Thank you for that.

Chair Beach: So Ted -- Ted, would you send that to my CDC account? I didn't -- I don't believe I got that.

I think you might be sending it to the wrong --

Mr. Katz: I'll get it to you. And yeah, I did. I sent it to your usual email.

Chair Beach: Yeah. And I'm not there until the first of August. So, I'm working --

Mr. Katz: Yeah. I'll do that.

Chair Beach: Okay. Thank you.

Mr. Katz: Yeah. Not a problem. Not a problem.

Chair Beach: Okay. So Andrew, I appreciate that. Anything else?

Mr. Evaskovich: No. Not that I can think of.

Chair Beach: All right. Joe, SC&A, any --

(Simultaneous speaking.)

Mr. Fitzgerald: No. No, I think this is fine. Thank you.

Chair Beach: Okay. Well, I think we can adjourn, Ted.

Mr. Katz: Yeah. Thank you everybody. Thank you everybody for being so well prepared for this.

Chair Beach: Thank you.

Mr. Katz: And take care, bye-bye.

Adjourn

(Whereupon, the above-entitled matter went off the record at 11:07 a.m.)